

Amendments to the Claims

1. (currently amended) A method for displaying images of a patient in a medical navigation system assisted by x-ray images, said method comprising:

~~calibrating an x-ray device in the medical navigation system to obtain registering information enabling an x-ray image acquired by the x-ray device in any one of a plurality of different positions to be registered in the navigation system;~~

~~using the calibrated x-ray device to produce producing a plurality of two-dimensional x-ray images of a the patient from different positions using the x-ray device;~~

 during the producing step, determining positions of the x-ray device using the medical navigation system, said determining step producing positional data;

~~converting data associated with the two-dimensional x-ray images into three-dimensional data;~~

~~transferring (i) the two-dimensional x-ray images, (ii) x-ray device positional information corresponding to the two-dimension x-ray images, and (iii) the three-dimensional data to the navigation system; and~~

~~using the x-ray images, positional data and registration information to produce three dimensional image data registered in the navigation system; and~~

~~using the registered three dimensional data and/or two dimensional x-ray images to display images on an image output device for use during a medical procedure~~

~~displaying at least the two-dimensional x-ray images on an image output of the medical navigation system.~~

2. (original) The method as set forth in claim 1, the calibrating step includes determining a position of the x-ray device in relation to a calibration phantom using the navigation system.

3. (original) The method as set forth in claim 1, wherein the calibrating step includes producing transformational matrices concerning spatial positions of the two-dimensional x-ray images.

4. (original) The method as set forth in claim 3, wherein the transformational matrices assigned to individual two-dimensional x-ray images are also transferred to the navigation system when the two-dimensional x-ray images are transferred.
5. (original) The method as set forth in claim 1, wherein the calibrating and producing steps are performed using a C-arm x-ray device.
6. (original) The method as set forth in claim 5, wherein the step of producing a plurality of two-dimensional x-ray images includes producing a series of isocentric x-ray images.
7. (currently amended) A program embodied in a computer-readable medium for displaying images of a patient in a medical navigation system assisted by x-ray images, said program comprising:
code that calibrates an x-ray device in the medical navigation system to obtain registering information enabling an x-ray image acquired by the x-ray device in anyone of a plurality of different positions to be registered in the navigation system;
code that commands the calibrated x-ray device to produce a plurality of two-dimensional x-ray images of the patient from different positions;
code that, during the production of the x-ray images, determines positions of the x-ray device using the medical navigation system, said determination producing positional data;
code that uses the x-ray images, positional data and registration information to produce three dimensional image data registered in the navigation system; and
code that uses the registered three dimensional data and/or two dimensional x-ray images to display images on an image output device for use during a medical procedure
~~A program which, when running on a computer or loaded onto a computer, causes the computer to perform a method in accordance with claim 1.~~
8. (currently amended) A computer program embodied on a machine-readable medium having stored thereon sequences of instructions that, when executed, cause at least an x-ray device and a navigation system to:
calibrate the x-ray device in the medical navigation system to obtain registering information enabling an x-ray image acquired by the x-ray device in any one of a plurality of different positions to be registered in the navigation system;

use the calibrated x-ray device to produce a plurality of two-dimensional x-ray images of a the patient from different positions using the x-ray device;

determine positions of the x-ray device using the medical navigation system to produce positional data;

~~convert data associated with the two-dimensional x-ray images into three-dimensional data;~~

~~transfer (i) the two-dimensional x-ray images, (ii) x-ray device positional data corresponding to the two-dimensional x-ray images, and (iii) the three-dimensional data to the navigation system; and~~

use the x-ray images, positional data and registration information to produce three dimensional image data registered in the navigation system; and

use the registered three dimensional data and/or two dimensional x-ray images to display images on an image output device for use during a medical procedure

~~display at least the two-dimensional x-ray images on an image output of the medical navigation system.~~

9. (new) The method as set forth in claim 1, further comprising displaying at least the two-dimensional x-ray images on the image output of the medical navigation system .

10. (new) The program as set forth in claim 7, further comprising code that displays at least the two-dimensional x-ray images on the image output of the medical navigation system.

11. (new) The program as set forth in claim 8, wherein the instructions further cause at least the x-ray device and/or the navigation system to display at least the two-dimensional x-ray images on the image output of the medical navigation system .